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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,145	12/01/2003	Jung-Joo Lee	SAM-0524	4784

7590 01/12/2007  
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EXAMINER
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SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
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2614

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/725,145

Applicant(s)

LEE, JUNG-JOO

Examiner

Ramnandan Singh

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date Dec. 20, 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted in Korean under 35 U.S.C. 119(a)-(d) on Dec. 01, 2003, which papers have been placed of record in the file.

### ***Claim Objections***

2. Claims 9-16 are objected to because of the following informalities:

Claim 9 recites the limitation "The method of claim 8" in line 1. This is in error. This is because claim 8 is a "system" claim, not a "method" claim. A similar thing holds for claims 10-16.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guillaud et al [US 5,594,760 A] in view of Tzannes et al [US 20060233227 A1].

Regarding claim 1, Guillaud et al teach a method for automatically controlling

receipt gain in a digital communication, as shown in Figs. 1-2, comprising :

receiving an initialization signal (i.e. training signal) for a time period I(i.e. window), wherein the initialization signal is output by the transmitter and transferred on the telephone line [col. 1, line 62 to col. 3, line 9; col. 1, lines 15-24];

comparing an average magnitude value of the initialization signal received during the time period (i.e. given window) and a reference magnitude value [col. 2, line 58 to col. 3, line 29]; and

controlling the receipt gain according to a difference between the average magnitude value of the received initialization signal and the reference magnitude value [col. 3, lines 30-61; claim 1].

Although Guillaud et al suggest applying the automatic gain control (AGC) in telephony and other digital or analog transmission systems [col. 1, lines 15-24], they do not teach details on those systems for application of the AGC. So one of ordinary skill in the art would have been motivated to seek any candidate system for applying the AGC, such as ADSL systems of Tzannes et al,

Tzannes et al teach using a training or initialization signal on a telephone line, which is a multi-carrier transceiver (transmitter/receiver) initialization training signal used to train the transceiver before commencing the transmission of information [Para: 0010-0013; 0033; 0009; 0005].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Tzannes et al with Guillaud et al in order to apply the AGC of Guillaud et al [Tzannes et al; Para: 0060].

Claim 8 is essentially similar to claim 1 and is rejected for the reasons stated above.

Regarding claims 2 and 3, these features are inherent in the Guillaud et al system, because controlling gain is based on the difference between the magnitude value of the received initialization signal and the reference magnitude value, as shown above.

Claim 9 is essentially similar to claim 2 and is rejected for the reasons stated above.

Claim 10 is essentially similar to claim 3 and is rejected for the reasons stated above.

Regarding claim 4, Tzannes et al further teach the method, wherein the digital communication system is an asymmetric digital subscriber line (ADSL) [Para: 0010-0011].

Claim 13 is essentially similar to claim 4 and is rejected for the reasons stated above.

Regarding claim 5, Tzannes et al further teach the method , wherein the initialization signal is a REVERB signal [Para: 0046].

Claim 14 is essentially similar to claim 5 and is rejected for the reasons stated above.

Regarding claim 6, Tzannes et al further teach the method, wherein the initialization signal is a MEDLEY signal Para: 0046].

Claim 15 is essentially similar to claim 6 and is rejected for the reasons stated above.

Regarding claim 7, since the combination of Guillaud et al and Tzannes et al teaches windowing operation [Tzannes et al; Figs. 9-10], it would have been obvious to a person of ordinary skill in the art , at the time the invention was made to design the window using any number of frames including 10 frames of signals to achieve fast operation subject to circuit, system and design constraints.

Claim 16 is essentially similar to claim 7 and is rejected for the reasons stated above.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Guillaud et al and Tzannes et al as applied to claim 8 above, and further in view of Cioffi et al [US 20020131455 A1].

Regarding claim 11, the combination of Guillaud et al and Tzannes et al does not teach expressly the system having a receiver comprising a demodulator for demodulating signals.

Cioffi et al teach a system having a receiver comprising a demodulator (76) for demodulating signals amplified by the amplifier [Para: 0051; 0113-0114]; and a gain controller (60) for storing signals demodulated by the demodulator received during the time period time and for controlling the gain of the amplifier according to a difference between the average magnitude value of the stored signal and the reference magnitude value [ Para: 0110; claim 49].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Cioffi et al with Tzannes et al and Guillaud et al in order to increase the throughput of transmission by using modulated signals [Cioffi et al; Para: 0051].

***Allowable Subject Matter***

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims

The following is a statement of reasons for the indication of allowable subject matter:

Claim 12 recites a digital communication system and limitations for the following: "a look-up table for defining compensation values corresponding to differences between the magnitude of the received initialization signal and the reference magnitude value; and a slicer for calculating an average magnitude value of the signals stored in the profiler and determining a compensation value according to a difference between the average magnitude value and the reference magnitude value with reference to the look-up table". The prior art of record does not teach these limitations. Hence, claim 12 is objected to.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh  
Examiner  
Art Unit 2614

A handwritten signature in black ink, appearing to read 'R Singh', with a long horizontal flourish extending to the right.